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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/582,462

06/12/2006

Uli Joos

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CONTINENTAL TEVES, INC.
ONE CONTINENTAL DRIVE
AUBURN HILLS, MI 48326-1581

EXAMINER

DIAO, M BAYE

ART UNIT

PAPER NUMBER

2838

MAIL DATE

DELIVERY MODE

06/26/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/582,462	Applicant(s) JOOS ET AL.	
	Examiner M'BAYE DIAO	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19,20,29-30,33- 36 is/are rejected.
- 7) ☒ Claim(s) 21-28,31,32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/12/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Amendment

1. Acknowledgement is made of Pre-amendment filed on 06/12/2006.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) filed on 06/12/2006 has been considered and placed of record. An initialed copy is attached herewith.

Specification

3. The disclosure should be carefully reviewed to ensure that any and all grammatical, idiomatic, and spelling or other minor errors are corrected.

Claim Objections

4. Claim 21 is objected to because of the following informalities: The word “ during the phase (t4-t4)” should read -- during the phase (t4-t5) --.
5. For examination purpose, The word “ during the phase (t4-t4)” would read -- during the phase (t4-t5) --.
6. Claim 30 is objected because of the following informalities: The word “a control unit connected to an input of the switching;” should read -- a control unit connected to an input of the switching element; --
7. For examination purpose The word “a control unit connected to an input of the switching;” would read -- a control unit connected to an input of the switching element; --

Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 29 and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. In both claims 29 and 34 it is not clear as to how a phase (time) is compared with a voltage and /or a current. The (tj-tk) represent phase and are in dimension of time whereas the I_m , (m=1 to 3) are in units of Amperes, and the U_{bat} , V_T are in units of Volts.

11. Appropriate correction is required.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 19-20,33,35-36 are rejected under 35 U.S.C. 103(a) as being obvious over Scheikl US 2004/0021498.

15. As per claim 19, Scheikl discloses (abstract;[0007]-[00024]; [0034]-[0066]) and shows in Figs. 1-5:

a switching arrangement and method for triggering a load (L) element, the arrangement comprising: an electronic switching element (LS) in a load circuit; a control unit (10,12) connected to an input (gate of LS) of the switching element (LS); and a load element (L) connected to a load output (OUT) of the switching element (LS), wherein the control unit (10,12) records a switching condition (see Figs. 4,6A-6B) of the switch element (LS), and in dependence on a triggering signal (SS) and the switching condition (by comparing the load path voltage of the switching transistor (LS) with a reference voltage V_{BATX}), controls the switch element (LS) in such a manner that a voltage on the load output (V_{out}) is controlled (via the states of the switches) in one phase (inductive load (L)).

Scheikl differs from the claimed invention because he does not specifically disclose the load output being controlled in three phases with a restricted increase, wherein an increase in the second, middle phase is lower in value than an increase in the other phases. It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the inductive load (L) with a three phases (L₁,L₂,L₃), just as in the

case of a motor or a three-phase rectifier, with a restricted increase, wherein an increase in the second, middle phase is lower in value than an increase in the other phases, so as to drive the motor.

Accordingly, claims 19-20,33, and 35-36 would at least have been obvious.

Allowable Subject Matter

16. Claims 21-29,31-32, and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. As per claim 21, the prior art of record fails to teach or reasonably suggest a method for triggering a load wherein the triggering is achieved in such a manner that during the phase (t4-t5) of high power loss, the voltage is adapted with the maximum specified increase at the beginning (t1-t2) and the end (t5-t6) of the switching procedure is lower than the maximum increase.

18. Claims 22-29 would be also be allowable due to their dependency on claim 19.

19. As per claim 31, the prior art of record fails to teach or reasonably suggest a switching arrangement for triggering a load element, wherein the input of the switch element is current-controlled, wherein depending on a triggering signal and a switching condition on the control input in the first phase, a first current value (I1), in the second phase, a second, higher current value (I1+I2+I3), and in the third phase, a third current value (I1) is fed in, which is lower than the second current value.

20. Claim 32 would be also allowable due to it dependency on claim 31.

21. As per claim 34, the prior art of record fails to teach or reasonably suggest a switching arrangement for triggering a load element, wherein the voltage on the input of the switching device is monitored and in the first and third phases, a current value above the first current value is fed in as long as the voltage on the control input is either lower than a specified threshold voltage (VT), or higher than the difference between the supply voltage and the threshold voltage.

22. The art of record does not disclose the above limitations, nor would it be obvious to modify the art of record to include either of the above limitations.

Conclusion

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in the PTO-892 and not mentioned above disclose related apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M'baye Diao whose telephone number is 571-272-6127. The examiner can normally be reached on 8:30-5:00; First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Akm Ullah can be reached on Monday through Friday at 571-272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Adolf Berhane/
Adolf Berhane
Primary Examiner
Art Unit 2838

/M. D./